

NEW!



DC Brushless Servo Amplifiers

- Compact size
- Eight power ranges
- Short circuit protection
 - phase-to-phase
 - phase-to-ground
- Over-temperature protection
- Options
 - velocity control
 - resolver feedback
 - power racks
- 25KHz PWM

These trapezoidal amplifiers operate the SM and NeoMetric Series of brushless servo motors, or any brushless motor with 60 or 120 degree Hall effect sensors. Each amplifier features separate settings for continuous and peak currents, along with peak-time. The SMA190-23R interfaces to a two-phase resolver and internally derives necessary Hall state commutation signals. It also provides a two phase quadrature encoder signal for interfacing to a position controller. The optional "V" velocity control interface, standard on the SMA055-10V, accepts quadrature encoder signals and internally closes the velocity loop. All amplifiers require an isolated DC input voltage.

Model	Operating Voltage (VDC)	Continuous Current	Peak Current	Nominal Load Inductance (mH)
SMA955-10V ¹	18 to 55	5	10	0.25 to 40
SMA090-20 ³	24 to 90	10	20	0.2 to 40
SMA090-30 ³	24 to 90	15	30	0.2 to 40
SMA180-10 ³	24 to 180	5	10	0.2 to 40
SMA180-20 ³	24 to 180	10	20	0.2 to 40
SMA180-30 ³	24 to 180	15	30	0.2 to 40
SMA190-26R ²	60 to 190	13	26	0.25 to 40
SMA225-20 ³	24 to 255	10	20	0.2 to 40

¹ Encoder - velocity feedback standard

² Features resolver feedback

³ Optional encoder - velocity feedback, V option

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Mechanical Dimensions

Model	Size (inches)
SMA055-10V	3.27 x 4.75 x 1.28
SMA090-20	3.83 x 6.58 x 1.37
SMA090-30	3.83 x 6.58 x 1.37
SMA180-10	3.83 x 6.58 x 1.37
SMA180-20	3.83 x 6.58 x 1.37
SMA180-30	3.83 x 6.58 x 1.37
SMA190-26R	4.4 x 7.32 x 1.29
SMA225-20	3.83 x 6.58 x 1.37

Power Racks

(Provide DC power and mounting for up to 6 axes of amplifiers)

Model	Description
SMP075-10	120 VAC, 60Hz input 75 VDC, 10 ampere output
SMP150-05	120 VAC, 60Hz input 150 VDC, 5 ampere output

Available high-performance, brushless servo motors include the SM and NeoMetric Series. Both designs take advantage of innovative motor design principles and high performance Neodymium magnets.

The SM Series consists of various length size 16 and 23 frame motors designed for manufacturability. The slotless design virtually eliminates detent or cogging torque in the motor. Subsequent higher rotor inertias prove beneficial in many applications.

Larger frame motors, beginning at 70mm diameters, are offered in the NeoMetric Series. These motors incorporate a bridged stator design, again allowing for manufacturing efficiencies otherwise unattainable. Low rotor inertias offer industry leading torque-to-rotor inertias, promising fast acceleration rates. A side benefit to the bridged design is noticeably quieter running motors.

Both the SM and NeoMetric Series offer various shaft, connector, and/or cabling options. Special modifications to customer requests are welcome and quickly accomplished.

Brushless Motors	Frame Diameter	Continuous Torque (lb-in)	Peak Torque (lb-in)	Rotor Inertia (lb-in-sec ²)
SM161...	1.6 inches	1.5	7.5	0.000094
SM162...	1.6 inches	2.75	7.5	0.000163
SM231...	2.3 inches	2.85	14.25	0.00046
SM232...	2.3 inches	5.75	28.75	0.00082
SM233...	2.3 inches	8.75	43.75	0.00117
NO701...	70mm	6.2	18.6	0.000106
NO702...	70mm	11.3	33.5	0.000174
NO703...	70mm	17.1	51.3	0.000241
NO704...	70mm	21.3	63.9	0.000308
NO921...	92mm	16.8	50.4	0.000353
NO922...	92mm	32.5	97.5	0.000623
NO923...	92mm	44.6	133.8	0.000883
NO924...	92mm	59.5	178.5	0.001143

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